



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

SCIENCE:

A WEEKLY NEWSPAPER OF ALL THE ARTS AND SCIENCES.

PUBLISHED BY

N. D. C. HODGES,

47 LAFAYETTE PLACE, NEW YORK.

SUBSCRIPTIONS.—United States and Canada.....\$3.50 a year.

Great Britain and Europe..... 4.50 a year.

Communications will be welcomed from any quarter. Abstracts of scientific papers are solicited, and twenty copies of the issue containing such will be mailed the author on request in advance. Rejected manuscripts will be returned to the authors only when the requisite amount of postage accompanies the manuscript. Whatever is intended for insertion must be authenticated by the name and address of the writer; not necessarily for publication, but as a guaranty of good faith. We do not hold ourselves responsible for any view or opinions expressed in the communications of our correspondents.

Attention is called to the "Wants" column. All are invited to use it in soliciting information or seeking new positions. The name and address of applicants should be given in full, so that answers will go direct to them. The "Exchange" column is likewise open.

VOL. XIV. NEW YORK, DECEMBER 20, 1889. No. 359

CONTENTS:

THE SHORTT HIGH-SPEED ENGINE... 413	THE CONTOURED MAP OF MASSACHUSETTS..... <i>W. M. D.</i> 422
ELECTRICAL NEWS.	
New Insulating Compound..... 414	BOOK-REVIEWS.
Electric Traction..... 414	Aspects of the Earth..... 423
AGRICULTURAL RESEARCH ON THE	"Evolution of Sound" evolved... 424
PACIFIC COAST..... 415	Mountaineering in Colorado..... 424
CAUSATION OF HOG-CHOLERA..... 416	The Graphic System of Object
RUMINATION IN THE HUMAN SUBJECT 418	Drawing 424
HIGHWAY IMPROVEMENT..... 418	AMONG THE PUBLISHERS..... 424
R. A. PROCTOR MEMORIAL FUND.... 419	LETTERS TO THE EDITOR.
A NEW METHOD OF PREPARING	A Peculiar Case of Adhesion
FLUORINE..... 419	<i>W. Simon, Ph.D.</i> 427
MENTAL SCIENCE.	Convectional Currents in Storms
Diseases of the Memory..... 420	<i>H. A. Hazen</i> 428
NOTES AND NEWS..... 421	INDUSTRIAL NOTES.
EDITORIAL..... 422	Calendars 429
A Lawyer as a Marine Engineer.	

ONE OF THE DISADVANTAGES of a popular form of government and of thorough democracy, recognizing absolute equality of all citizens, whether rich or poor, wise or stupid, familiar with business or ignorant of all its forms, is illustrated by the fact that the current technical journals are describing an ironclad "designed" by a distinguished lawyer, who happens to be a member of Congress and of the Naval Committee of the House of Representatives. It would seem that this distinguished lawyer has thought himself, and has been thought by his colleagues, competent to plan what, in its highest form, is the very culmination of scientific knowledge, of engineering talent, and of the mechanic's inventive power. In other countries it is supposed, both popularly and by the officials of governments, that such a construction could only be safely attempted when the designs have been prepared by engineers and naval architects of the most exceptional experience, and who have shown by their works that they possess those combinations of talents (vastly more rare than those of the successful general) which are essential, as has been supposed, to highest perfection of construction. It would sooner be proposed, in any other country than the United States, to intrust the life of a sick man to the care of an uneducated laborer of the docks rather than to that of an educated physician, as to place in the hands of a non-professional the planning of structures which are expected to cost millions of dol-

lars, to illustrate the grandest results of modern engineering, and protect the interests and the honor of a great nation.

The story, if told abroad, will undoubtedly be received with absolute incredulity, as one of those incomprehensible American "jokes" which the average European mind can never hope fully to appreciate; but, were it believed, the average American can probably as little conceive the astonishment that it is likely to awaken. The conceit of the lawyer, turned engineer and naval architect, who could imagine himself fitted for performing the work of a member of another profession; the social, and especially the official, customs that could make such a thing possible; the quietness with which the proper departments and officials could thus permit themselves to be set aside while an amateur undertakes their work; the even more extraordinary attitude of the committees of Congress, of Congress itself, in looking on with indifference while this curious and remarkable phenomenon is being exhibited, and actually, as is reported, voting the million dollars and a half required for the still more remarkable experiment in the inversion of the commonly accepted principles of business,— would appear, then, about equally extraordinary and incredible. In fact, it would seem quite as incredible to some of our own citizens, were it not for the fact that the name of the distinguished amateur is given, and the details of his proposed construction are presented in full.

Our only explanation of this singular incident seems to be suggested by the extent to which details are given in the specifications published, which indicate, that behind the great lawyer, and hidden by his grander proportions, is somewhere a naval architect who is too modest, or who, for some more inscrutable reason, either does not care or does not dare come into view as the responsible designer of this expensive toy. Could it be possible that the whole performance represents the catering of a bureau of the Navy Department to the political friend relied upon to promote its interests or those of its officials in Congress? If this be the case (and we would not like to believe it, suggestive as the circumstances are of such an explanation), the danger to the interests of the government and of the people; the injury to the reputation of the constructive bureaus of the Navy Department and to that of the secretary of the navy; the compromising of the unquestionably able and distinguished lawyer who is the victim of this scheme, and who must appear before the world, at home and abroad, as enormously conceited and equally unwise,— should promptly lead to the revelation, by the officials concerned, of the real state of the case. The people of the United States cannot afford to hand over a million dollars and a half to an amateur, or to risk its success in battle, and its honor on the sea, in any such wild experiment; much less can it afford to place in official position men who have so little knowledge of the first principles of ordinary business.

THE CONTOURED MAP OF MASSACHUSETTS.

FIVE years ago the United States Geological Survey and the Commonwealth of Massachusetts entered into an agreement concerning a topographic survey of the State, the results of which are now gradually coming before the public. The field-work was completed two years ago. A number of the inch-to-a-mile, contoured, quarter-degree sheets have been engraved, and proofs have been struck off for use in the survey. It is to be hoped that they may all be soon published by the State, and placed on sale at the cost of printing. New Jersey has reached this desirable stage, and its invaluable atlas of twenty sheets can now be bought for twenty-five cents apiece, or five dollars for the entire set.

The map of Massachusetts here referred to more particularly is in four sheets on a reduced scale of about four miles to an inch (1:250,000), with contours every hundred feet. The irregular shape of the State gives the map an unsatisfactory form, that will be